Message

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To: ORD-ALL Feds and NonFeds and RSLs [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2c735272eef941588aefd9a05ed28823-ORD-ALL Feds and NonFeds and RSLs]
CC: Smith, Bonnie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7eea3dccb60d404daa2feb320d4b6d12-Bjsmith]; Lincoln, Larry [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8248d03a1441414db7754db201ebec45-Lincoln, Larry]; Barnett, Felicia [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5773b45cae5142fe950861dd6146f1e9-Barnett, Felicia]; Carter, Bobbi [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dcafe85fc418ebd1651be2e8ab82d-Carter, Bobbi]; Gettle, Jeaneanne [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8e72aa7e1894faea44006fd9f22b637-Gettle, Jeaneanne]; Taylor, Dawn [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b984d00ec06544e498ee5d986f97047c-Taylor, Dawn]; Klinger, Adam [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=346d5466632f4967adc7169c8d2ce4fd-Klinger, Adam]; Widener, Charles (Chuck) [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db4c02702e5a4d25aabff1cf8bfa3e36-Widener, Ch]; Liljegren, Jennifer [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c7098a838cd34f75b8878571fe95d939-JLiljegr]
Subject: Weekly Compass: August 22, 2017

Weekly Update: 8/22/2017

Welcome to the Weekly Compass, your gateway to information about recent and upcoming ORD activities. If you have ideas for the Weekly Compass, please send them to the editors. To see each full article on ORD@work, please click on the text that is hyperlinked.

Weekly Note from Chris

Hi ORDers - Bob is in Seattle this week, where he's co-chairing the Tenth World Congress on Alternatives and Animal Use in the Life Sciences. Congratulations to Bob for receiving the 2017

Russell and Burch Award, which is presented by the Humane Society of the United States to scientists who have made outstanding contributions to the advancement of alternative methods in the areas of biomedical research, testing, or higher education.

While he's gone, I'm in DC, where I'll be participating in the Lean Action Board meeting from 23rd-25th to focus on creating and implementing a Lean Management System (LMS) at EPA. While EPA's prior Lean efforts have been mainly focused on individual projects, the goal of creating a LMS is to make certain that Lean improvements are consistently implemented and that continuous improvement becomes a way of life in EPA. I will be meeting with fellow regional and program Lean Board members (each AAship/RAship has an Advocate), as well as Henry Darwin, Assistant Deputy Administrator. Much more to come on this topic.

On Monday, Bruce Rodan and Richard Yamada traveled to Cincinnati to meet with our staff there and to attend the Small Drinking Water Systems workshop, which takes place from the 22nd-24th. On Thursday, they will travel to Philadelphia to meet with Region 3 and the directors of their state environmental agencies. In addition to a discussion about research needs, agenda topics include safe drinking water, technology and data management, the Superfund Task Force, PFOA and PFOS, CAFO permitting strategies, lead, and cooperative federalism.

Last week Administrator Pruitt sent a message reaffirming the importance of elevating critical environmental and public health issues. You'll recall that ORD was the first Agency organization to establish a process for quickly elevating an issue. If you know of an environmental or public health issue that needs greater attention, please submit the relevant details and appropriate action will be taken.

I hope you were able to safely enjoy yesterday's eclipse. Thank you for your continued hard work. - *Chris Robbins*

Quick Updates

- Don't forget to check out the open opportunities on Talent Hub!
- Reminder: FY 17 required training is available via e-Learning.
- Read the Summer 2017 Tribal Science Council Bulletin.
- Check out *EPA Research: Recent Impacts Report*.
- Check out the Elevator Speech Resource Page on ORD@work.
- Online registration for training on enhancements to People Plus is open. Contact Jeris Bowlding with any questions.
- Voting is open through 9/15 for the People's Choice Award -- part of the Samuel J. Heyman Service to America Medals. EPA's Surabhi Shah and the Urban Waters Team are in the running.
- For information about EPA's Feds Feed Families campaign and to see a current calendar of events, visit the Feds Feeds Families intranet site.
- You can read the This Week @ EPA newsletter here.
- Upcoming webinars:
    - EPA Tools and Resources Webinar: National Stormwater Calculator: Wednesday, 8/23, 3-4 pm ET
    - Small Water Systems Webinar: Treatment and Control for Manganese and Iron: Tuesday 8/29, 2-3:30 pm ET
    - Water Research Webinar: Land Use, Environmental Stressors, and Water Resources: Degradation to Restoration: Wednesday, August 30, 2-3 pm ET

- Computational Toxicology Communities of Practice: Suspect Screening of Chemicals in Consumer Products: Thursday, August 31, 11-12 pm ET
- Public Teleconference of the Chartered Clean Air Scientific Advisory Committee (CASAC) and the CASAC Secondary NAAQS Review Panel for Oxides of Nitrogen and Sulfur: Thursday, August 31, 1-5 pm ET

Photos of the Week: ITRC Board visits ORD's Atlantic Ecology Division

In the Lab:

CyAN Collaboration Provides Early Detection of Cyanobacteria Bloom

Early detection of toxic algal blooms is now possible based on satellite imagery from the Cyanobacteria Assessment Network (CyAN), a multiagency project involving EPA, NASA, NOAA, and USGS. Collaborators from EPA, NOAA and the State of Utah sought satellite access early this year after severe cyanobacteria blooms took place in the state during 2016. A week after the state's routine monthly sampling, CyAN detected a bloom developing in Utah Lake's Provo Bay before officials on the ground knew it. CyAN is also providing U.S. Army Corps of Engineers in Lake Okeechobee, Florida, along with other CyAN collaborators in EPA Region 4, daily cyanobacteria data from the Sentinel-3 OLCI satellite through the CyAN mobile application. Preparations are underway to switch the mobile application testing to current Sentinel-3 OLCI data for the continental U.S. in the coming weeks.

Update on Support to NC on GenX in Cape Fear Basin

On August 15, at the request for Region 4, ORD scientists participated on a call with representatives from local governments in North Carolina to discuss treatment options for GenX and other per- and polyfluoroalkyl substances (PFASs) at drinking water utilities in Cape Fear, NC. Participants on the call included North Carolina Department of Environmental Quality; Pender County (NC) Health Director; and the Cape Fear Public Water Utility. Participants agreed to share information on ongoing projects related to the drinking water utilities in Cape Fear, and to look for opportunities to collaborate further.

ORD is preparing its third report on the laboratory PFAS results for the North Carolina Department of Environmental Quality (NC DEQ) on their Cape Fear Basin sampling. This report will include results for GenX from the sampling for weeks 6 and 7, along with preliminary findings from ORD's non-targeted analysis.

Atmospheric Water Generation CRADA with WaterGen

In response to a request from the Administrator, ORD initiated a series of discussions with OW and the Administrator's staff to identify research objectives for evaluating the broader use of AWG technologies. Currently the statement of work and CRADA are being finalized. ORD estimates that the research could be completed in 6 months or less. Representatives from WaterGen toured EPA labs in Cincinnati last week and discussed the technical aspects of the evaluation of WaterGen's AWG system.

Smoke Sense Study and Mobile App Updates

EPA's Smoke Sense Study and mobile app has had an initial strong response from the public, with more than 1,200 new users since the app was launched on Google Play Store on August. 1. Coverage of the wildfire smoke study includes an article posted in the next issue of Wildfire magazine, a publication of the International Association of Wildland Fire, and The Wenatchee World.

PIP Project Provides Public Access to Fathead Minnow Genomes to help Communities Predict Toxicity of Chemicals on Aquatic Environments

NHEERL toxicologists have released first draft annotations of the fathead minnow genome, dramatically expanding the scope of genome-level information for one of the most widely used organisms in North America for aquatic toxicity testing. Gene predictions were made accessible to the public and scientific community via an interactive genome browser hosted in partnership with the Society of Environmental Toxicology and Chemistry. Understanding the fathead minnow genome ultimately provides decision makers with the information they need to more quickly and cost effectively take action to protect the local aquatic environment. The research is a result of a Pathfinder Innovation Project (PIP2) award. See: Environmental Toxicology and Chemistry (Saari et al. 2017; DOI: 10.1002/etc.3929).

Contaminated Marsh Sediments Affect Migrating Waterfowl

Soils contaminated from mines often affect habitats for migrating waterfowl, who can ingest lead-contaminated sediments on marsh plant roots and tubers during annual migrations through Idaho. That's why researchers from NHEERL's Western Ecology Division recently installed monitoring stations at a feeding area favored by Tundra Swans in a basin of the Coeur d'Alene River. The area is known to contain high levels of lead and other heavy metals in the sediment from over a century of silver mining and smelting at the nearby Bunker Hill Mining & Metallurgical Complex Superfund site. Monitors will inform methods development for remediating lead in marsh sediments and reducing the accessibility and bioavailability to migrating waterfowl. NHEERL's WED is collaborating with NRMRL and Region 10 on the project.

Colombian Ministry of Environment Teleconference

On August 15th, NCEA scientists and colleagues from OAR participated in a teleconference with the Colombian Ministry of Environment on how they can revise air quality standards for criteria air pollutants. They discussed the utility of "correcting" concentrations measured at monitors for standard temperature and pressure in high altitude cities in Colombia, which are 8,000 ft. or more above sea level.

10th World Congress on Alternatives and Animal Use in the Life Sciences

ORD scientists will participate in the Tenth World Congress on Alternatives and Animal Use in the Life Sciences this week. Bob Kavlock is a co-chair of the World Congress and NCCT Deputy Director Kevin Crofton is a member of the scientific program planning committee. EPA's scientific advances in developing alternative, non-animal testing approaches for evaluating thousands of chemicals for potential health effects will be shared through a variety of presentations and posters, including NCCT Director Russell Thomas who is giving a plenary presentation "A New Tox21 Strategic Plan and the Integration of EPA Science". ORD's presence will also include an exhibit booth (booth #209), where scientists will provide live demonstrations of EPA's online tools and meeting participants can learn more about EPA's research. In addition, NCCT will be presenting during a satellite meeting hosted by the University of Washington, a STAR grantee, with information on how people can access and use the data and online tools developed through EPA's CompTox research.

International Symposiums

Today, NCEA will be represented at the 37th International Symposium on Halogenated Persistent Organic Pollutants (POPs) - DIOXIN 2017, with a presentation entitled "Current Approaches for Evaluating Potential Health Risks from Polychlorinated Biphenyls in Indoor School Air." This is part of a session entitled "PCBs in Buildings with an Emphasis on Schools in US and Canada". Tomorrow, NCEA scientists will provide training on the Health Assessment Workspace Collaborative (HAWC) toolkit at the 4th International Symposium in Systematic Review/Meta-analysis. Several NCEA scientists will be presenting at the meeting on the application of systematic review in the assessment of environmental chemicals.

Benchmark Dose Software (BMDS) Version 2.7.

NCEA released Benchmark Dose Software (BMDS) version 2.7. This release contains various bug fixes and enhancements, which continue BMDS's evolution as a mature, widely-used product. Additionally, users will see new features including BMDS models reporting the benchmark dose upper confidence limit (BMDU) in addition to the lower confidence limit (BMDL).

Pesticide Exposure from Drinking Water and Heart Defects

NCEA's Tom Luben, in collaboration with National Birth Defect Prevention Study (NBDPS) colleagues, recently published an analysis of atrazine and heart defects in the International Journal of Environmental Research and Public Health. The authors observed no associations between atrazine concentrations (high vs low) measured in public water supply districts and congenital heart defects.

NHSRC Decontamination Research Posted

An "Evaluation of Commercially-Available Equipment for the Decontamination of Bacillus anthracis Spores in an Urban Subway System"was recently posted online.
A survey of commercially-available or fielded equipment was conducted and resulted in three pieces of identified equipment that could be used or rapidly modified for use in supplying liquid chemicals to decontaminate surfaces following a biological contamination incident. This effort aims to improve the capability for transit systems to quickly and efficiently recover from a biological contamination incident by refining existing methods, tools and protocols for characterization, clean-up, and clearance of contamination in physical structures (i.e., tunnels, stations) and rolling stock (i.e., subway trains).
"A Review of Biological Agent Sampling Methods and Application to a Wide-Area Incident Scenario to Characterize Time and Resource Demands" was also posted.
This study was conducted to evaluate current sampling and analytical capabilities, from a time and resource perspective, for a large-scale biological contamination incident. The analysis will be useful for strategically directing future research investment.

Update on Lead Service Line Identification Project in Galesburg, IL

NRMRL's Darren Lytle has been working with the City of Galesburg, Illinois EPA, and Region 5 on lead service line (LSL) identification in Galesburg. The LSL identification project was initiated as part of the Flint response to address the national issue of helping systems and individuals locate LSLs. Galesburg has had historical lead action level exceedances, and has implemented phosphate-based corrosion control treatment, public education, and LSL replacement. During the week of July 31, sequential samples were collected from 12 homes in Galesburg. On August 10, the project team received the first round of sampling results from the Region 5 lab, which indicated elevated lead levels. The City was informed of the sampling results and that EPA recommended use and/or installation of point-of-use filtration devices. The LSL identification project, which also includes Flint, MI, is ongoing.

NRMRL Assisting Ohio EPA with Bromide and Drinking Water Treatment

NRMRL's Mike Elovitz and Regan Murray, along with OW, have been working with Ohio EPA's Division of Drinking and Ground Waters regarding small drinking water utilities in Ohio that are faced with challenges in meeting the regulated maximum contaminant levels for total trihalomethanes (TTHMs). TTHMs are disinfection byproducts of chlorine. NRMRL is offering technical expertise on disinfection byproduct formation and distribution system modeling (e.g., using EPANET) and discussing options, including changes to disinfection practices and distribution system operation. NRMRL plans to meet with representatives from Ohio EPA at the EPA Small Systems Drinking Water Workshop this week.

Update on Flint, MI

NRMRL's Dan Williams traveled to Flint to meet with the water treatment plant operator in Flint, MI and conduct pipe rig maintenance, removing lead pipe sections that were installed at the plant in February 2016. ORD will evaluate scale layer formation on the pipes. ORD has trained the plant operator and staff from the Michigan Department of Environmental Quality to record weekly flow readings from the pipe loop rigs and perform maintenance when needed. Last week, NRMRL's Darren Lytle, Mike Schock, and Jonathan Pressman met with Region 5 representatives to discuss the water quality outlook in Flint, MI.

Meeting with Sanipur, Cincinnati, OH

NRMRL's Darren Lytle met with representatives from Sanipur, a company that manufactures monochloramine treatment systems, which are used in hospitals to prevent colonization of waterborne pathogens such as Legionella. The purpose of the meeting was to provide information on the results of the Grandview Hospital Legionella study that EPA has been conducting for the past two years. Results of the study are promising, as Legionella was greatly reduced in the water without secondary unintended consequences of treatment.

Green Infrastructure in St. Louis

SSWR participated in a kick-off call with Region 5 and representatives from the City of St. Louis to discuss the City's large-scale plans for vacant lot/building demolition and urban watershed management planning. SSWR will coordinate with the National Center for Infrastructure Modeling and Management (NCIMM, SSWR-funded Center through NCER) to determine if they can provide technical assistance to the City. NRMRL's Bill Shuster will also provide technical assistance on urban soil replenishment for managing storm water.

Update to CompTox Dashboard Released

NCCT released an updated public version of the Computational Toxicology Dashboard. The new release includes a number of new chemical lists of regulatory significance, thousands of new chemicals including toxins resulting from harmful algal blooms (for example https://comptox.epa.gov/dashboard/DTXSID90423027), and high-throughput pharmacokinetic data. New predicted physical-chemical property data is also included from NRMRL's TEST software. The Office of Chemical Safety and Pollution Prevention is evaluating the use of the data and computational predictions in the CompTox Dashboard for prioritizing chemicals regulated under the Toxic Substance Control Act.

Improving Health and Well-being in Denver's Poorest Neighborhood

Mike Nye of NERL is working with partners from the University of Colorado-Denver's College of Architecture and Planning (UCD) in a collaborative well-being research project. It is aimed at improving public health and the environment for residents of the Sun Valley neighborhood—a public housing area where the median annual income is just $9,000. In July, Denver Housing

Authority and Sun Valley EcoDistrict received a $30 million HUD grant to redevelop Sun Valley. Agency scientists will be measuring indoor air quality and will be using EPA's Human Well Being Index—an integrated measure for evaluating the influence of social, economic and environmental service flows on human wellbeing—to inform redevelopment plans that will revitalize the community. Nye and other EPA staff met with UCD and local stakeholders last week to finalize research questions, data sharing arrangements and to kick start the project. EPA is also actively pursuing research and development projects at Sun Valley that are focused on Net Zero water and energy goals and indicators of human well-being and environmental quality.

Material Management Wizard Now Final

The final, updated version of EPA's Materials Management Wizard (MWIZ) is now live on the public EPA server. MWiz provides easy access to a repository of EPA-sourced materials management tools and resources designed to support and promote sustainable materials management and community planning decisions. The tools and resources available help users analyze problems, understand management options, calculate design parameters, analyze costs and benefits, evaluate tradeoffs, engage stakeholders, and/or develop education and outreach campaigns. The tool was developed through a cross-agency collaboration involving ORD, Office of Policy, Office of Land and Emergency Management, and Regional staff.

Estrogen Receptor Research

An article by an NHEERL researcher, J. Christopher Corton, and co-authors at King's College London recently published determined whether bisphenol A (BPA) alternatives are any safer than BPA itself. The authors examined the ability of six BPA analogues to induce estrogen response element-mediated transcription and to promote estrogen receptor mediated growth. The team showed that some analogues were more potent than BPA, and all were shown to be agonists at the estrogen receptor alpha. These findings highlight the need for testing of replacement chemicals prior to their introduction to demonstrate that they are safer than the alternative. The article was selected by the Editor of Toxicological Sciences in his monthly highlights.

NHEERL's J. Christopher Corton also recently published a manuscript with co- authors that describes the estrogenic potential of glyphosate, commercial glyphosate-based herbicides, and polyethoxylated tallowamine adjuvants present as co-formulants in glyphosate-based herbicides. The authors found that glyphosate, but not other components present in glyphosate-based herbicides, can activate estrogen receptor α in vitro, albeit at relatively high concentrations.

In the Office:

ORD Reporting and Data Analytics Open House in RTP

The Data Analytics Team is holding an open house in RTP on Wednesday, August 23 & Thursday, August 24 to provide demos, training and open feedback on the ORD Reporting and Analytics Site. There have been exciting new enhancements to the Data Analytics tool which will help ORD managers and staff in their day-to-day financial and human resource tracking activities. The team will also be looking for feedback on what users like about the tool and/or if there are additional features they'd like to see.

Accolades:

Thanks Received for Support to California Department of Toxic Substances Control

California's Department of Toxic Substances Control expressed deep appreciation for the participation of ORD & EPA employees at the SB 673: Cumulative Impacts and Community Vulnerability Symposium, saying "All of your presentations added substance and value to the symposium and as I talked to folks, they all had positive feedback about your presentations." Those who helped include ORD's Andrew Geller, Shannon Griffin, Brian Dyson, Florence Fulk, and Charles Lee (OEJ). Their participation was a result of a request from California Department of Toxic Substances Control that EPA help them with a new process for dealing with hazardous substance decisions.

In the Community:

Meeting with Wright State University on Lead Sampling Thesis Project, Cincinnati, OH

NRMRL's Mike Schock and Darren Lytle met with Kayla Haman, a masters student at Wright State University, and her advisor Chad Hammerschmidt. Kayla is working on a master's thesis project conducting tap sampling for lead in about 50 homes in the Dayton, OH area. Her sampling plan is based on lead service line maps provided by the City of Dayton. Kayla and Chad visited EPA-Cincinnati to present her work so far, obtain feedback and technical advice from Mike and Darren, and tour NRMRL's water research laboratories. Once the analysis portion of her project begins, she plans to return for another discussion with NRMRL staff.

Summer Experience for Undergraduates

Providing nutrients and necessary hormones, such as thyroid hormones, to the developing child are crucial for development of the nervous system and other organ systems. The consequences of maternal hypothyroidism can cause irreparable effects on a child's IQ and result in lifelong learning disabilities. NHEERL's Hisham El-Masri mentored four undergraduate students this summer in the development, evaluation, and application of a computational toxicology model for the impact of iodine deficiency on fetal and dam thyroid hormones levels during pregnancy in rats. The students learned basic principles of biological process and how they can be implemented and coded computationally in computer software. This effort was part of Dr. El-Masri's continuing collaboration with N.C. State University's Research Experience for Undergraduates in Mathematics, Modeling, and Industrial Applied Mathematics, an 8-week summer program.

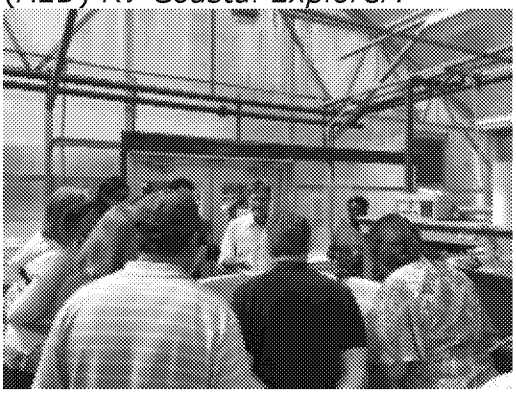
EPA-RTP STEM Outreach Program

Tomorrow, the EPA-RTP STEM Outreach Program will join other community partners to share educational resources with more than 500 middle and high school teachers at the Durham Public Schools Academic Kickoff in Durham.
On Thursday, the EPA-RTP STEM Outreach Program will speak about sustainability at the Student Environmental Education Coalition at the North Carolina School of Science and Mathematics in Durham.

Photos of the Week: ITRC Board visits ORD's Atlantic Ecology Division

August 15-17, ORD hosted the Interstate Technology and Regulatory Council (ITRC) Board, a subgroup of the Environmental Research Institute of the States (ERIS), for their summer meeting at ORD's Atlantic Ecology Division in Narragansett, RI. On August 17, the ITRC Board members toured the EPA facility and learned about ongoing research efforts—including an early warning indicator system using historical and current satellite data to detect algal blooms in U.S. freshwater systems. Many thanks to AED who helped make this event a success!

Interstate Technology and Regulatory Council (ITRC) Board with the Atlantic Ecology Division's (AED) *RV Coastal Explorer*.



AED Director Wayne Munns describing wetlands research to the ITRC Board in AED's greenhouse.

The ITRC Board learns about facility sustainability efforts on AED's green roof.